BIAMP SYSTEMS

PROFESSIONAL AUDIO SYSTEMS

EFFECTIVE JUNE 2011

PRODUCT OFFERINGS

TESIRA®

PRODUCT CATALOG

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Introducing sound on a whole new scale. Tesira® delivers smarter system modularity, breakthrough performance and boundless expansion potential.

SERVERS [4]

Highly scalable processing with up to 8 DSP-2 cards in a single chassis and up to 420 x 420 channels of AVB and 32 x 32 channels with CobraNet.®

SERVER I/O CARDS [5]

Flexible options with 3 specialty server cards: AVB-1, SCM-1 (CobraNet) and DSP-2 card with 2 DSPs. Plus 6 Server I/O Cards including inputs, outputs, AEC, ANC, VoIP and a standard telephone interface.

EXPANDERS [7]

Room to grow. EX-IN, EX-OUT and EX-IO expanders each provide 4 channels with PoE+. EX-MOD supports any 3 expander cards. EX-LOGIC PoE logic expander provides 16 logic GPIO.

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Choice of 3 cards to mix-and-match: 4-channel mic/line input card, 4-channel output card or I/O combination.

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Tesira surface-mounted and in-wall remote Ethernet control devices offer a simple, intuitive interface and can be installed and configured to fit the needs of a particular application.

SOFTWARE [11]

Tesira's intuitive design software, including revolutionary partitions and Biamp's compilation engine, will help you minimize design and installation time and lower costs.

AUDIO ON A WHOLE NEW SCALE

Tesira changes the scale of possibilities for the way AV systems are designed, installed, networked and experienced. The first truly scalable media system for digital audio networking using Audio Video Bridging (AVB), Tesira delivers smarter system modularity, breakthrough performance and boundless expansion potential, with:

- Modular scalable I/Os, DSPs and networked end-points
- A scalable digital media backbone (AVB)
- Up to 8 DSP-2 cards in a single chassis
- Up to 420 x 420 digital audio channels

INTELLIGIBILITY ON A WHOLE NEW SCALE

The Tesira system features Biamp's new SpeechSense™ Technology and AmbientSense™ Technology, which enhance speech processing by more accurately distinguishing between human speech and ambient noise. This allows Biamp's exceptional algorithms — including acoustic echo cancellation (AEC), automatic gain control (AGC), ambient noise compensation (ANC), and automatic mixers — to perform on a whole new level.

SYSTEM DESIGN ON A WHOLE NEW SCALE

By eliminating guesswork and workarounds, Tesira's intuitive design software will save your organization time, money and resources.

Now you can design and expand systems incrementally, floor by floor, phase by phase, using Tesira's revolutionary *partitions*. With *partitions* you can configure distinct areas — and add, maintain or update them separately — while other areas remain up and running.

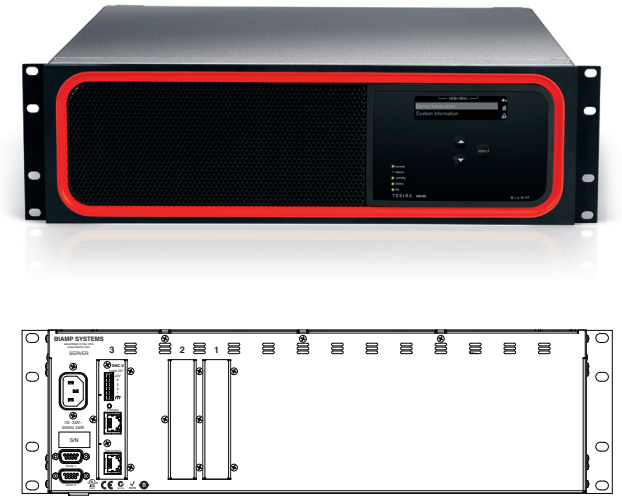
With our unique *compilation engine*, you simply design even the most sophisticated audio system and click "compile." The *compilation engine* checks that the design is complete, determines the most cost-effective list of Biamp hardware, and documents the necessary system interconnects.

SUCCESS ON A WHOLE NEW SCALE

Tesira means the opportunity to grow your business by entering new markets and taking on larger-scale projects. When you specify and install Tesira systems, you get the highest-quality audio and a future-proofed system that's more networkable, expandable, reliable and cost-efficient. All backed by Biamp's legendary customer support and the only 5-year warranty in the industry.

SERVERS

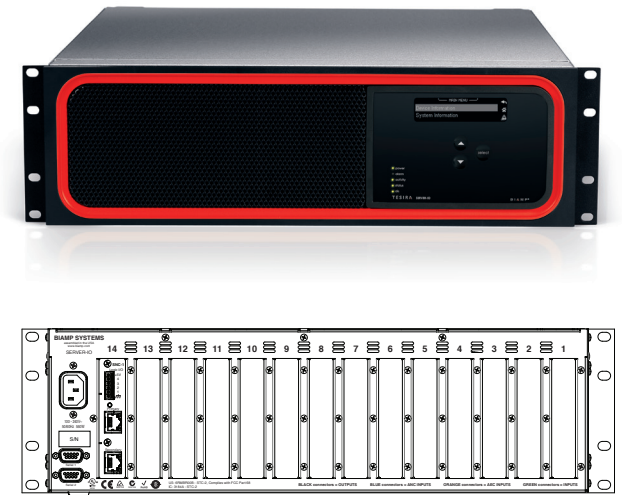
TESIRA SERVER



The Tesira SERVER is a digital network server. It is factory configured with one DSP-2 card but can accept up to a total of eight DSP-2 cards. The SERVER can be outfitted with up to two network cards for AVB or CobraNet® in any combination. The SERVER can also be outfitted with a standard I/O card for 4 channels of local I/O. The SERVER is the core of a Tesira digital audio system and can be used as a standalone or with Tesira Expanders to form a highly scalable audio network.

- Supports up to 8 DSP-2 cards
- 420 x 420 channels of I/O per AVB-1 card
- Optional 32 x 32 CobraNet audio networking
- Configuration and control networking over Ethernet
- Supports network redundancy
- Supports AVB
- Supports CobraNet
- Local GPIO connections
- Front panel LCD display for device and system information
- New processing algorithms: SpeechSense™ and AmbientSense™
- Signal processing via intuitive software allows configuration and control for: signal routing and mixing, equalization, filtering, dynamics and delay and much more
- Extensive expansion devices (Input, Output, Logic, etc) available as part of the Tesira digital audio networking platform
- CE marked, UL listed, RoHS compliant

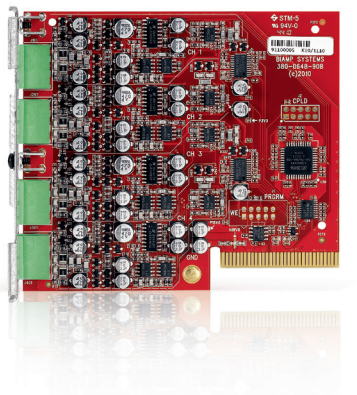
TESIRA SERVER-IO



The Tesira SERVER-IO is a digital network server. It is factory configured with one DSP-2 card and is capable of handling up to two additional DSP-2 cards. The SERVER-IO can be configured with one 420 x 420 channel AVB card or one AVB card and one or two 32 x 32 channel SCM CobraNet cards. The SERVER-IO can support up to 12 Standard Tesira I/O cards for up to 48 channels of audio I/O (e.g. mic and line level, VoIP, and telephone interface). The SERVER is the core of a Tesira digital audio system and can be used as a standalone or with Tesira Expanders to form a highly scalable audio network.

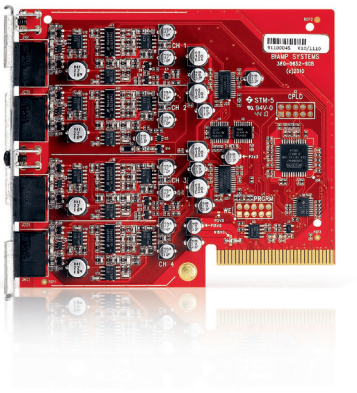
- Up to 3 DSP-2 cards
- Up to 12 I/O cards with maximum 48 channels of audio
- Up to 420 x 420 channels of digital I/O with AVB
- Optional 32 x 32 CobraNet audio networking
- Configuration and control networking over Ethernet
- Supports network redundancy
- Local GPIO connections
- Front panel LCD display for device and system information
- New processing algorithms: SpeechSense and AmbientSense
- Signal processing via intuitive software allows configuration and control for: signal routing and mixing, equalization, filtering, dynamics and delay and much more
- Wide selection of I/O cards available
- Four channel Acoustic Echo Cancellation card (also includes AGC and ANC) and Ambient Noise Compensation card available
- Extensive expansion devices (Input, Output, Logic, etc) available as part of the Tesira digital networking platform
- Rack mountable (3RU)
- CE marked, UL listed, RoHS compliant

SERVER I/O CARDS



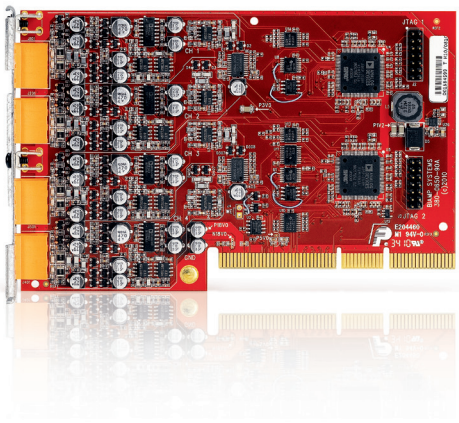
The Tesira SIC-4 is a modular analog input card for use with Tesira SERVER and SERVER-IO devices. Each SIC-4 provides 4 channels of Mic or line level audio input. The inputs are electrically balanced and provided on plug-in barrier strip connectors. Software control of each input includes gain with clip indicator, +48V phantom power, mute, level and signal invert.

- 4 channels of balanced mic or line level input
- Plug-in barrier strip connectors
- 0 – 66dB gain, adjustable in 6dB increments
- Clip indicator
- +48V Phantom Power
- -100 to +12dB fader range for level
- Signal invert for reverse polarity
- RoHS compliant and AES grounded



The Tesira SOC-4 is a modular analog output card for use with Tesira SERVER or SERVER-IO devices. Each SOC-4 provides 4 channels of line level audio output. The outputs are electrically balanced and provided on plug-in barrier strip connectors. Software control of each output includes mute, level, signal invert and full-scale output reference.

- 4 channels of balanced line level output
- Plug-in barrier strip connectors
- -100 to +12dB fader range for level
- Signal invert for reverse polarity
- Selectable full-scale output reference level (24dBu, 18dBu, 12dBu, 6dBu, 0dBu, -31dBu) for best interface/performance
- RoHS compliant and AES grounded

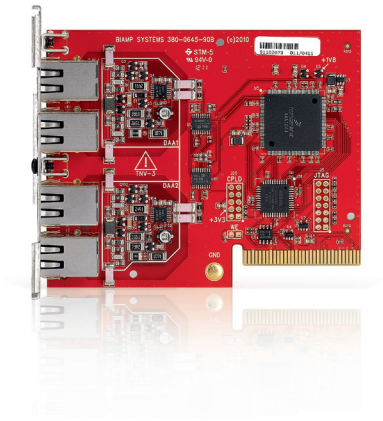


The Tesira SEC-4 is a modular analog input card for use with Tesira SERVER or SERVER-IO devices. Each SEC-4 provides 4 channels of Mic or Line level audio input with Acoustic Echo Cancellation. The SEC-4 utilizes the next generation of the proprietary Sona™ algorithm and also features two new Biamp algorithms, SpeechSense™ and AmbientSense™ which enhance speech processing by more accurately distinguishing between human speech and noise.

- 4 channels of balanced mic or line level input
- 4 channels of Acoustic Echo Cancellation using Biamp's proprietary wide-band Sona™ algorithm
- New processing algorithms: SpeechSense and AmbientSense
- Processing includes High-Pass Filter
- Additional noise reduction on AEC outputs
- Does not use processing resources from SERVER or SERVER-IO DSP
- RoHS compliant and AES grounding practices

SERVER I/O CARDS

TESIRA STC-2



The Tesira STC-2 is a modular telephone interface card for use with Tesira SERVER and SERVER-IO devices. The STC-2 allows a Tesira system to connect directly to standard analog telephone lines. Being more than just a normal "hybrid," each channel includes line-echo cancellation, noise suppression, caller-ID decoding, ring detection/validation, DTMF decoding, and call progress tone decoding. When used in conjunction with Automatic Echo Cancellation processing, Tesira becomes an extraordinarily powerful, flexible and affordable conferencing platform.

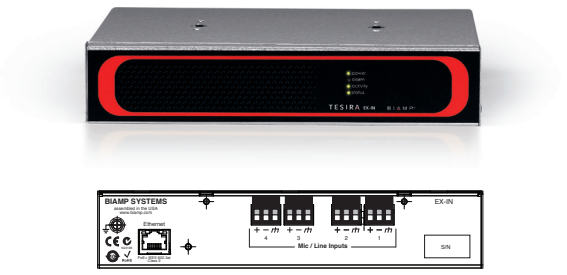
- Initiate outgoing calls
  - DTMF tone dialing
  - Speed-dialing
  - Redial
  - Flash
- Detect and answer incoming calls
- Line echo cancellation
- TouchTone™ decoding
- Caller ID reception
- Call progress detection
- Line intrusion detection
- Noise suppression filter
- Continuous Line Status and Fault Monitoring
- Can be controlled by:
  - Commands from external control systems
  - Control dialog boxes within Tesira Software
  - Logic control from within Tesira or RCB devices
- Extensive customization options and parameters
- RoHS compliance and AES grounding practices

TESIRA SVC-2

The Tesira SVC-2 is a modular Voice over Internet Protocol (VoIP) card for use with Tesira SERVER and SERVER-IO devices. The SVC-2 allows a Tesira system to connect directly to IP-based telephone systems. When used in conjunction with Automatic Echo Cancellation (AEC) processing, Tesira becomes an extraordinarily powerful, flexible and affordable conferencing platform.

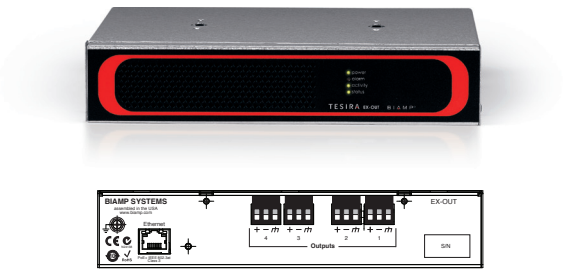
- Control via Tesira software or third-party control
- Extensive customization parameters and options
- Logic control within Tesira or RCB devices
- Two concurrent, independent calls
- Caller ID, Hold capability, Redial, 16-entry Speed Dial
- Adjustable auto-answer
- Combined level adjustment for call progress and DTMF tones
- Country-specific tone plans•
- SIP v2 (RFC 3261 and companion RFCs)
- SIP authentication
- Voice activity detection
- Comfort noise generation
- Dynamic jitter buffer
- Packet loss concealment
- On-hook dialing
- Multiple CODEC support
  - G.711μ
  - G.711A
  - G.722
  - G.729AB
  - G.723.1
- RoHS Compliant

EXPANDERS



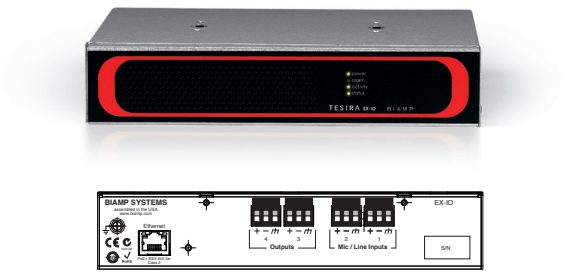
The Tesira EX-IN is a half-rack expander box for use with Tesira SERVER and SERVER-IO devices. The EX-IN is a 4 channel mic/line input expander. The expander communicates with the Tesira AVB network for audio networking, configuration and control and is powered by PoE+.

- 4 channels of balanced mic or line level input
- 0 – 66dB gain, adjustable in 6dB increments
- +48V Phantom Power
- -100 to +12dB fader range for level
- Audio and control networking over AVB
- Powered by PoE+
- Plug-in barrier strip connectors
- Front panel LEDs for device status indications
- Half-rack chassis
- RoHS compliant and AES grounded



The Tesira EX-OUT is a half-rack expander box for use with Tesira SERVER and SERVER-IO devices. The EX-OUT is a 4-channel line level output expander. The expander communicates with the Tesira AVB network for audio networking, configuration and control and is powered by PoE+.

- 4 channels of balanced mic line level output
- -100 to +12dB fader range for level
- Signal invert for reverse polarity
- Selectable full-scale output reference level (24dBu, 18dBu, 12dBu, 6dBu, 0dBu, -31dBu) for best interface/performance
- Audio and control networking over AVB
- Powered by PoE+
- Plug-in barrier strip connectors
- Front panel LEDs for device status indications
- Half-rack chassis
- RoHS compliant and AES grounded

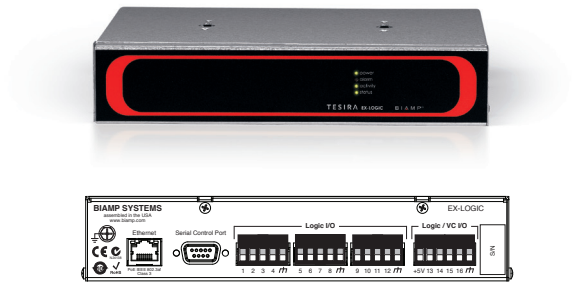


The Tesira EX-IO is a half-rack expander box for use with Tesira SERVER and SERVER-IO devices. The EX-IO is a 4-channel input and output expander. The expander features two channels of mic/line level input and 2 channels of mic level output. The expander communicates with the Tesira AVB network for audio networking, configuration and control and is powered by PoE+.

- 2 channels of balanced mic or line level input
- 2 channels of balanced line level output
- 0 – 66dB gain, adjustable in 6dB increments on input
- +48V Phantom Power on inputs
- Selectable full-scale output reference level (24dBu, 18dBu, 12dBu, 6dBu, 0dBu, -31dBu) for best interface/performance
- Powered by PoE+
- Half-rack chassis
- RoHS compliant and AES grounded

EXPANDERS

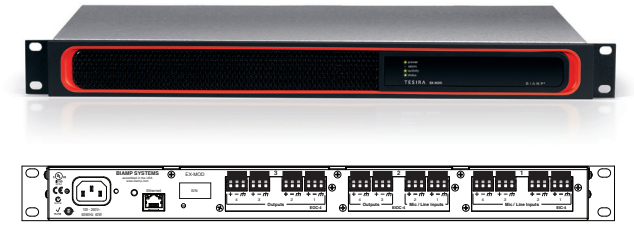
TESIRA EX-LOGIC



The Tesira EX-LOGIC is a half-rack logic box for use with Tesira SERVER and SERVER-IO devices. The EX-LOGIC provides both logic inputs and outputs and through software can be configured as a control interface. There are 16 total connections that can be used as inputs or outputs. 12 of the connections are designed as Logic connections only and will accept contact closure or 5V TTL for input or provide a maximum of 40V/500mA for output. The remaining 4 connections can also be used for Logic connection or as variable voltage control input (e.g. interface to a potentiometer). The EX-LOGIC also provides a serial port for the output of command strings that can be used to send action commands to other equipment in the system. The EX-LOGIC communicates with the Tesira SERVER or SERVER-IO over Ethernet and is powered by PoE.

- 16 total logic connections can be used as inputs or outputs
- 4 connections can also be used as voltage control inputs
- Inputs can control actions within the software including: presets, mutes, ducking, room combining, paging functions, and much more
- Outputs can trigger status relays, indicators or provide logic input to other controllable equipment
- Serial port for the output of command strings
- Connects to Tesira SERVER or SERVER-IO over AVB
- Powered by PoE
- Plug-in barrier strip connections
- Front panel LEDs for device status indications
- Half-rack chassis
- RoHS compliant and AES grounded

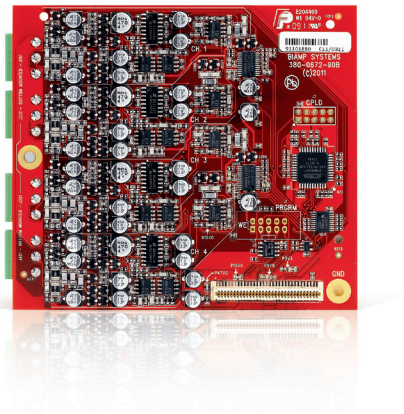
TESIRA EX-MOD



The Tesira EX-MOD is a modular expander device that is designed for use with Tesira SERVER and SEVER-IO devices. It can be configured with up to three 4-channel input and/or output cards for a maximum of 12 channels. The EX-MOD expander communicates with the Tesira AVB network for audio networking, configuration and control.

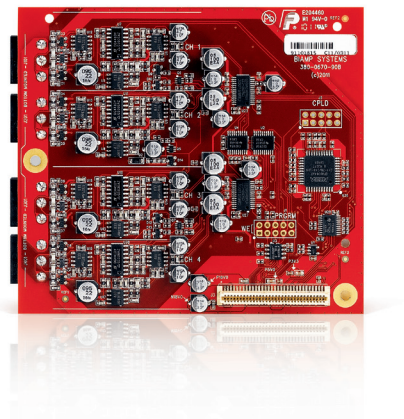
- Up to 3 I/O cards
- Up to 12 channels of analog audio
- AVB connection to Tesira system for audio networking, configuration and control
- Plug-in barrier strip connections on cards
- Front panel LEDs for device status indications
- Internal universal power supply
- Rack mountable (1RU)
- CE marked, UL listed, RoHS compliant

EXPANDER I/O CARDS



The Tesira EIC-4 is an expander card with 4 analog input channels for use with Tesira EX-MOD device. The EIC-4 is one of three optional cards that can be mounted in Tesira EX-MOD. Each EIC-4 provides 4 channels of mic/line level audio input. The inputs are electrically balanced and provided on plug-in barrier strip connectors. Software control of each input includes gain with clip indicator, +48V phantom power, mute, level and signal invert.

- 4 channels of balanced mic or line level input
- Plug-in barrier strip connectors
- 0 – 66dB gain, adjustable in 6dB increments
- Clip indicator
- +48V Phantom Power
- -100dB to +12dB fader range for level
- Signal invert for reverse polarity
- RoHS compliant and AES grounded



The Tesira EOC-4 is an expander card with 4 analog output channels for use with Tesira EX-MOD device. The EOC-4 is one of three optional cards that can be mounted in Tesira EX-MOD. Each EOC-4 provides 4 channels of line level audio output. The outputs are electrically balanced and provided on plug-in barrier strip connectors. Software control of each output includes mute, level, signal invert and full-scale output reference.

- 4 channels of balanced line level output
- Plug-in barrier strip connectors
- -100dB to +12dB fader range for level
- Signal invert for reverse polarity
- Selectable full-scale output reference level (24dBu, 18dBu, 12dBu, 6dBu, 0dBu, -31dBu) for best interface/performance
- RoHS compliant and AES grounded

The Tesira EIOC-4 is an expander card with 2 input and 2 output channels for use with Tesira EX-MOD device. The EIOC-4 is one of three optional cards that can be mounted in Tesira EX-MOD. Each EIOC-4 provides 2 channels of mic/line audio input and 2 channels of line level audio output. The inputs and outputs are electrically balanced and provided on plug-in barrier strip connectors. Software control of each input includes gain with clip indicator, +48V phantom power, mute, level and signal invert whereas for output includes mute, level, signal invert and full-scale output reference.

- 2 channels of balanced mic or line level input
- 2 channels of balanced line level output
- 0 – 66dB gain, adjustable in 6dB increments on input
- +48V Phantom Power on inputs
- Selectable full-scale output reference level (24dBu, 18dBu, 12dBu, 6dBu, 0dBu, -31dBu) for best interface/performance
- RoHS compliant and AES grounded

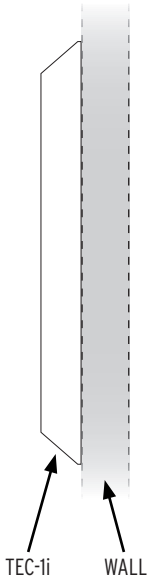
CONTROLS

TESIRA TEC-1s

The Tesira TEC-1s is a surface-mount remote Ethernet control device for use with Tesira systems. It offers a simple, intuitive interface for end users and can be installed and configured to fit the unique needs of a particular application. The device connects via standard CAT-5/6/7 cabling and is powered over Ethernet, eliminating the need for custom cabling and local power sources. Multiple remote control panels can be connected over large distances using standard network technology.

- Adjustment and/or initiation of 32 selectable system volumes and actions
- Volumes are any individual or grouped system levels, including inputs, outputs, matrix cross-points, etc.
- Actions are any individual or grouped system operations, including presets, source selection, mutes, ducking, combining, etc.
- Control functions are programmed in the Tesira system design software
- High contrast OLED display with a wide viewing angle
- The display brightness can be adjusted to fit the ambient light present in the application and automatically dims when not in use
- Capacitive touch technology eliminates protruding and moving parts to increase product reliability and longevity while simplifying cleaning
- Surface-mounts to any wall; multiple mounting options accommodate international back boxes
- 330' (100m) Ethernet cable length can be extended with standard PoE network technology (routers, switches, hubs, media converters)
- Connects with standard RJ-45 or IDC connector

TESIRA TEC-1i



The Tesira TEC-1i is an in-wall remote Ethernet control device for use with Tesira systems. It offers a simple, intuitive interface for end users and can be installed and configured to fit the unique needs of a particular application. The device connects via standard CAT-5/6/7 cabling and is powered over Ethernet, eliminating the need for custom cabling and local power sources. Multiple remote control panels can be connected over large distances using standard network technology.

- Adjustment and/or initiation of 32 selectable system volumes and actions
- Volumes are any individual or grouped system levels, including inputs, outputs, matrix cross-points, etc.
- Actions are any individual or grouped system operations, including presets, source selection, mutes, ducking, combining, etc.
- Control functions are programmed in the Tesira system design software
- High contrast OLED display with a wide viewing angle
- The display brightness can be adjusted to fit the ambient light present in the application and automatically dims when not in use
- Capacitive touch technology eliminates protruding and moving parts to increase product reliability and longevity while simplifying cleaning
- Flush-mounts to any wall; mounts using the retrofit plate (included) or installs in a Raco® 254 box for North American installations (not included)
- 330' (100m) Ethernet cable length can be extended with standard PoE network technology (routers, switches, hubs, media converters)
- Connects with standard RJ-45 or IDC connector

SOFTWARE

Tesira Software is the interface for all system configuration design. Creating the processing and system design for the application is done through this simple to use drag-and-drop interface. Tool bars put processing, control and diagnostic elements only a mouse click away. Making audio and logic connections is fast and easy, and several options are available for how connection lines are displayed. Network and system discovery tools allow for easy discovery and loading of the system configuration into the Tesira hardware.

PARTITIONS FOR INCREMENTAL CONFIGURATION

Finally, the power to design systems floor-by-floor, phase-by-phase. Tesira's breakthrough partitions offer the following advantages:

- Configure systems using a phased or "partitioned" approach
- Ideal for expanding installations, new buildings on existing campus, complex projects
- Distinct areas can be configured, updated and maintained separately
- Minimizes redrawing and compilation time
- Reduces system downtime
- Saves time, money and resources

BIAMP'S UNRIVALLED COMPILATION ENGINE

Minimize design time, reduce hardware costs and eliminate costly trial and error with this unique tool. Simply design the system and click "compile." Within seconds, the compilation engine performs the following operations:

- Checks that the design is complete
- Determines the most cost-effective list of Biamp hardware required
- Documents all necessary system interconnects to ensure proper, stable operation
- Determines interconnects needed for the system to communicate correctly

SOFTWARE FEATURES

- Complete system configuration and control
- Compiler confirms design, details hardware requirements for system
- New Partitions allow parts of the design to be kept separate from each other (although audio connections can be made between partitions)
- Partitions compile separately, allowing one partition to stay online running while the design in another partition is changed, recompiled and reloaded
- A single partition can span multiple devices; a single device can have multiple partitions
- New processing blocks; Uber Filter and FIR filter, Gain Sharing Automixer, Automatic Gain Control (AGC)
- Many new line styles and features
- Drag and drop creation and editing of presets
- Logic Simulation
- Enhanced Text Protocol includes data point monitoring
- Selectable sample rates (48/96 kHz)

PRODUCT CATALOG

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